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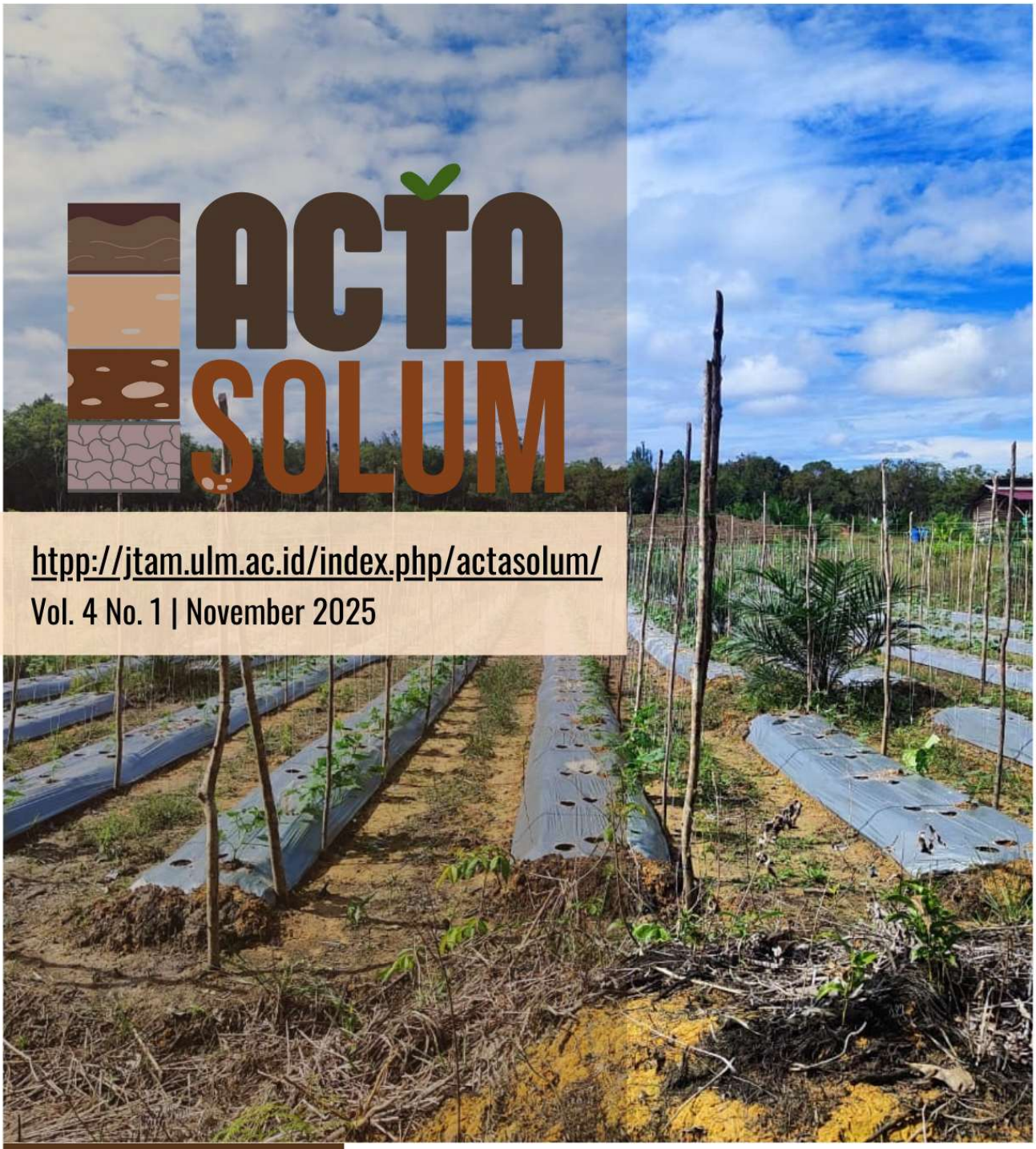

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PREFACE

Chief Editor

We express Alhamdulillaahi rabbil ‘aalamiin, praise be to Allah SWT. With His grace and guidance, Acta Solum Volume 4, Number 1, November 2025 has been successfully published in accordance with the planned schedule and academic standards.

Acta Solum is a peer-reviewed scientific journal that publishes original and authoritative articles in the field of soil science. The journal serves as a medium for the exchange of knowledge among soil scientists, environmental managers, practitioners, and policy makers at national and international levels. Published by the Department of Soil Science, Faculty of Agriculture, Lambung Mangkurat University, Acta Solum is issued three times a year, namely in March, July, and November.

In this volume, we are pleased to present a collection of recent studies that address current issues and challenges in soil and land resource management across diverse agroecosystems in Indonesia. The articles in this issue explore soil characterization and classification under different land-use systems, spatial analysis of soil erosion risk using USLE and GIS approaches, drought assessment based on remote sensing, and comparative evaluation of soil physical properties under contrasting tillage systems. Other contributions discuss the response of crop growth and yield to organic and inorganic fertilization, the utilization of agricultural and agro-industrial waste as liquid organic fertilizers, and the assessment of land-use-driven soil degradation potential within watershed systems.

Collectively, these studies emphasize the importance of integrating soil physical, chemical, and biological perspectives with spatial and technological approaches for sustainable land management. Soil classification and characterization provide a fundamental basis for determining appropriate management strategies, while erosion and drought analyses highlight the urgency of conservation planning in vulnerable landscapes. The promotion of conservation tillage, organic amendments, and waste-based fertilizers demonstrates practical pathways to improve soil fertility, enhance crop productivity, and reduce environmental pressure. Furthermore, watershed-scale assessments underscore the critical role of land use and vegetation cover in maintaining soil functions and ecosystem services.

We hope that the articles presented in this edition will enrich scientific knowledge and serve as valuable references for researchers, students, practitioners, and policy makers in supporting sustainable agriculture and land resource management. We warmly invite readers to explore this volume and gain meaningful insights from the research findings presented.

Our sincere appreciation and gratitude are extended to the Dean of the Faculty of Agriculture, Lambung Mangkurat University, as well as to the reviewers, editorial board members, editorial staff, authors, and all parties who have contributed to the publication of this issue. Without their dedication and cooperation, this volume would not have been possible.

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